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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO, | CONFIRMATION NO. |
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| 10/703,977 | 11/07/2003 | Carlos R. Corleto | COS-928 | 2841 |

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| EXAMINER | |
|---|---|
| JIMENEZ, MARC QUEMUEL | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3726 | |

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/703,977 | CORLETO ET AL. | |
| | Examiner | Art Unit | |
| | Marc Jimenez | 3726 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *30 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) *52 and 53* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11-7-03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election of Group I in the reply filed on 6-30-06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-3, 26-28, 50 and 51** are rejected under 35 U.S.C. 102(b) as being anticipated by JP 64-47878 (hereinafter '878).

'878 teaches a method comprising: perforating **2** a steel plate **1**, forming a devolatilizer nozzle from the steel plate (figure 1), and heat treating the devolatilizer nozzle (English abstract, line 3). In as much structure claimed, the nozzle of '878 is considered a "devolatilizer nozzle". Heat treating increases the yield strength and tensile strength of steel.

Regarding the limitations pertaining to the capacity of the nozzle, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior

art. If the prior art structure is capable of performing the intended use, then it meets the claim. Furthermore, the limitations pertaining to the capacity of the nozzle does not further limit the method of forming the nozzle.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 4-15, 19-21, 23-25, 29-40 and 44-49** are rejected under 35 U.S.C. 103(a) as being unpatentable over '878.

'878 teaches the invention cited above with the exception of specifically disclosing the claimed yield strength and tensile strength of the steel material used, the claimed sizes of holes, and the thickness of the plate.

At the time of the invention, it would have been an obvious matter of design choice to a person of ordinary skill in the art, to have used the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate because applicant has not disclosed that claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either the yield and tensile strength, the claimed sizes of holes, and the thickness of the plate

taught by '878 or the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate because either yield and tensile strengths, the claimed sizes of holes, and the thickness of the plate perform the same function of providing a high strength nozzle equally well. In addition, official notice is taken that it was well known to a person of ordinary skill in the art, at the time of the invention, to have provided the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate, in order to provide a nozzle having the desired strength requirements depending upon the application the nozzle is used for.

The particular steel used is considered an obvious matter of design choice depending upon the application that the nozzle is to be used for. Official notice is taken that it was well known to a person of ordinary skill in the art, at the time of the invention, to have provided the claimed steel composition, in order to provide a high strength steel material for the nozzle.

6. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over '878 in view of Nakagawa et al. (US6007761).

'878 teaches the invention cited above with the exception of annealing the steel plate.

Nakagawa et al. teach annealing a steel plate (col. 8, lines 13-17).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of '878 with annealing the steel plate, in light of the teachings of Nakagawa et al., in order to strengthen the steel material prior to further processing operations.

7. **Claims 1-21 and 23-51** are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art [hereinafter APA] in view of '878.

APA teaches that devolatilizer nozzles are known to have perforations or holes and that small nozzle diameter holes are desirable because they increase devolatilization. In addition it is known to use steel for these nozzles (see paragraphs [0005]-[0008] of applicants specification).

However, APA does not specifically disclose heat treating the nozzle.

'878 teaches a method comprising: perforating **2** a steel plate **1**, forming a devolatilizer nozzle from the steel plate (figure 1), and heat treating the devolatilizer nozzle (English abstract, line 3). In as much structure claimed, the nozzle of '878 is considered a "devolatilizer nozzle". Heat treating increases the yield strength and tensile strength of steel.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of APA with heat treating the nozzle, in light of the teachings of '878, in order to strengthen the material of the nozzle.

At the time of the invention, it would have been an obvious matter of design choice to a person of ordinary skill in the art, to have used the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate because applicant has not disclosed that claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either the yield and tensile strength, the claimed sizes of holes, and the thickness of the plate taught by '878 or the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate because either yield and tensile strengths, the claimed sizes of holes, and the thickness of the plate perform the same function of providing a high strength nozzle equally well. In addition, official notice is taken that it was well known to a person of ordinary skill in

the art, at the time of the invention, to have provided the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate, in order to provide a nozzle having the desired strength requirements depending upon the application the nozzle is used for.

The particular steel used is considered an obvious matter of design choice depending upon the application that the nozzle is to be used for. Official notice is taken that it was well known to a person of ordinary skill in the art, at the time of the invention, to have provided the claimed steel composition, in order to provide a high strength steel material for the nozzle.

The claimed number of perforations is considered an obvious matter of design choice to a person of ordinary skill in the art, at the time of the invention, depending upon the desired devolatilization required.

8. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of '878 as applied to claim 1 above, and further in view of Nakagawa et al.

APA/'878 teaches the invention cited above with the exception of annealing the steel plate.

Nakagawa et al. teach annealing a steel plate (col. 8, lines 13-17).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of APA/'878 with annealing the steel plate, in light of the teachings of Nakagawa et al., in order to strengthen the steel material prior to further processing operations.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Jimenez whose telephone number is (571) 272-4530. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marc Jimenez, ~~Primary~~ Examiner
Art Unit 3726

MJ
9-6-06